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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,998	11/14/2003	Chikara Tsutsui	018775-882	7357
21839	7590	11/26/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			DOTE, JANIS L	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	
			1756	
DATE MAILED: 11/26/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/706,998

Applicant(s)

TSUTSUI ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/14/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-11, drawn to toners, classified in class 430, subclass 108.4.

II. Claims 12-20, drawn to image-forming methods, classified in class 430, subclass 125.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using, such as an imaging process comprising the steps of developing an electrostatic latent image formed on an image bearing member with the toner of Invention I and fixing the toner image onto the surface of the image bearing body. Such a method does not require cleaning the un-transferred residual toner from the image bearing member after transfer of the toner image to a

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transfer member as required in the method of Invention II, because the toner image is not transferred to a transfer member, but is fixed on the image bearing member.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, and as shown by their different classification, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Mr. George Lesmes (Reg. No. 19,995) on Nov. 17, 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicants in replying to this Office action.

Claims 12-20 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of

inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The disclosure is objected to because of the following informalities:

(1) The specification at page 1, lines 21 and 23, page 2, lines 16-17, and page 3, line 6, refers to Patent Documents 1, 2, 3, 4, and 5. However, the specification does not identify the "Patent Documents."

(2) The specification at page 10, line 6, identifies the "single photosensitive member" as reference character "1" in Fig. 2. However, the single photosensitive member in Fig. 2 is labeled with the reference character "10".

(3) The specification labels the toners in comparative examples A7 through A10, and B7 through B10 as "comparative." However, the toners in comparative examples A7 through A10 meet the toner limitations recited in instant claims 1, 2, 6, 7, and 11, and the toners in comparative examples B7 through B10 meet the toner limitations recited in instant claims 1, 2, and 11, and the product-by-process limitations recited in instant claims 8-10. It is not clear what applicants consider to be their invention.

Appropriate correction is required.

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6. The term "average degree of roundness" recited in instant claim 1 is defined in the instant specification at pages 21-22, paragraphs 0049-0050, as the "peripheral length of a circle equal to projection area of a particle/peripheral length of a particle projection image."

7. In light of the disclosure in the instant specification, the limitation "toner . . . having surface properties  $D/d_{50}$  that satisfy the following conditional expression . . .  $D/d_{50} \geq 0.40$  in which  $D = 6/(\rho \cdot S)$ , ( $\rho$  is a true density ( $\text{g/cm}^3$ ) of toner particles,  $S$  is a BET specific surface area ( $\text{m}^2/\text{g}$ ) of toner particles), and  $d_{50}$  represents a weight-average particle size ( $\mu\text{m}$ ) of the toner particles" is interpreted by the examiner to refer to the surface properties  $D$ ,  $\rho$ , and  $S$  of the toner particles prior to the addition of the fatty acid metal.

Antecedent basis for the examiner's definition is found at page 23, paragraph 0052, and in the examples, of the specification. The specification in paragraph 0052 discloses that the parameter  $D/d_{50}$  is an "index indicating whether or not thin pores exist on the surface or the inside of the toner particle." In the examples of the instant specification, calcium stearate is added to each of the toner particles. See the instant specification, page 79, paragraph 0195. In Table 3,

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in comparative example A11, the toner, which comprises toner particles A1 and no externally added calcium stearate, has a  $D/d_{50}$  value of 0.55. In example A1, the toner, which comprises toner particles A1 and externally added calcium stearate, has the same  $D/d_{50}$  value of 0.55.

If applicants do not agree with the examiner's definition, applicants should clearly state so, and indicate where in the originally filed specification there is antecedent basis for their definition.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Instant claims 3-5 are indefinite in the phrase the "toner of Claim 1, which is applied to an image-forming method in which residual toner on an electrostatic latent image supporting member is cleaned by using a cleaning blade," because it is not

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clear what is being claimed. It is not clear whether applicants are claiming an image-forming method or whether the recitation in instant claims 3-5 is merely a recitation of intended use.

If claims 3-5 are reciting an image-forming method, claims 3-5 are indefinite because it is not clear to what the toner is being applied in an image-forming method.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

12. In the interest of compact prosecution, the examiner has interpreted the recitations in claims 3-5 as recitations of

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intended use. Rejections based on this interpretation are set forth infra.

13. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,603,535 (Tsutsui) combined with US 6,338,929 B1 (Hagi).

Tsutsui discloses a toner comprising non-magnetic toner particles. Example 1 at col. 26. The toner particles comprise a colorant and the polyester binder resin A. The polyester resin A has a number-average molecular weight (Mn) of 3,300, a ratio of weight-average molecular weight (Mw) to Mn (Mw/Mn) of 4.2, a glass transition temperature (Tg) of 68.5°C, and a softening point of 110.3°C. Table 1 at col. 24, polyester resin A. Polyester resin A meets the binder resin limitations recited in instant claims 6 and 7. The toner particles have an weight average particle size of 7.0  $\mu\text{m}$ , a degree of roundness of 0.981, a standard deviation of the degree of roundness of 0.026, and a value for the ratio  $D/d_{50}$  of 0.54. Table 2 at col. 29, example 1. The average degree of roundness disclosed by Tsutsui has the same definition as the average degree of roundness recited in instant claim 1. Compare Tsutsui, col. 3, lines 25-34, and paragraph 6, supra. The Tsutsui values of the average degree of roundness and the standard deviation of the

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average degree of roundness are within the ranges of the average roundness parameters recited in instant claim 1. The Tsutsui value of the ratio  $D/d_{50}$  0.54 meets the range of  $\geq 0.40$  recited in instant claim 1. Tsutsui further discloses externally adding post-treatment agents, such as hydrophobic silica and strontium titanium, to 100 parts of the toner particles of example 1. Col. 29, lines 55-62.

Tsutsui does not disclose that the toner particles of example 1 have a volume average particle size of 3 to 7  $\mu\text{m}$  as recited in instant claim 1. However, as discussed above the toner particles in example 1 of Tsutsui have a weight-average particle size of 7.0  $\mu\text{m}$ . The particle size value of 7.0  $\mu\text{m}$  is within the numerical range of the volume average particle size recited in instant claim 1. Thus, based on the presumption that the toner particles have uniform density, it would be reasonable to conclude that the toner particles in example 1 of Tsutsui have a volume average particle size of 7.0  $\mu\text{m}$ . Accordingly, the burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Instant claims 8-10 are written in product-by-process format. Tsutsui does not disclose that its toner is obtained by a wet method as recited in instant claims 8-10. However, as

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discussed supra, the toner particles in example 1 of Tsutsui have an average degree of roundness, a standard deviation of the degree of roundness, a ratio  $D/d_{50}$ , and a volume average particle size that are within the ranges of the roundness parameters, the ratio  $D/d_{50}$ , and volume average particle size recited in instant claim 1, from which claims 8-10 depend from. Furthermore, in example 1 of Tsutsui, after forming the toner particles, the particles are subjected to an "instantaneous" heat treatment by applying heat to the particles in a hot air flow as recited in instant claim 9. See Tsutsui, example 1, col. 26, lines 19-31 and 35-48. Thus, it appears that the toner particles in example 1 of Tsutsui are the same or substantially the same as the toner particles made by the process limitations recited in instant claims 8-10. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985). MPEP 2113.

Tsutsui does not exemplify toners comprising an externally added fatty acid metal salt having a volume average particle size of 1.5 to 12  $\mu\text{m}$  in the amount of 0.001 to 0.1% by weight as recited in instant claim 1. However, as discussed supra, Tsutsui discloses externally adding post-treatment agents to the toner particles of example 1 of Tsutsui. Tsutsui does not limit the type of post-treatment agents used. Tsutsui discloses

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"externally admixing post-treating agents such as a fluidizing agent etc. to the toner particles obtained as described above. With respect to the post-treatment agents, inorganic fine particles or organic fine particles may be used." Col. 17, lines 1-5. Tsutsui previously discloses that fluidity-adjusting agents can include various metal soaps such as aluminum stearate, calcium stearate, zinc stearate, and magnesium stearate. Col. 9, lines 63-64.

Hagi teaches toners comprising toner particles and a combination of four particular external additives. The combination of external additives comprises: (1) hydrophobic silica particles having a number-average particle size of 5 nm; (2) titanium oxide particles having a number-average particle size of 50 nm; (3) titanium oxide particles having a number-average particle size of 200 nm; and (4) calcium stearate having a volume average particle size of 5  $\mu$ m in an amount of 0.1 wt% of the toner. See col. 9, lines 53-68; col. 10, lines 1-14; and Table 1 at col. 11, example 1. The calcium stearate disclosed by Hagi meets the limitations of the fatty acid salt recited in instant claims 1 and 2. Accordingly to Hagi, when a toner comprises such a combination of external additives, the adhesion and wearability of the surface of the photosensitive material is suppressed, and the toner "exhibits the excellent rising

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property of the electrification, environmental stability and durability." Col. 2, lines 12-22. Hagi further teaches that by externally adding the fatty acid metal salt, i.e., calcium stearate, to the toner, a "lubricative film is uniformly formed on the surface of the photosensitive member to prevent the adhesion on said surface, and the occurrence of BS [black spots] can be prevented (a lubricating function)." Col. 5, lines 53-57.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Tsutsui and Hagi, to use the combination of the four particular external additives in example 1 of Hagi, which includes calcium stearate having a volume average particle size of 5  $\mu\text{m}$  in an amount of 0.1 wt% of the toner, as the externally added post-treatment agent to the toner particles in example 1 of Tsutsui, because that person would have had a reasonable expectation of successfully obtaining a toner that suppresses the adhesion and wearability of the surface of the photosensitive material, and "exhibits the excellent rising property of the electrification, environmental stability and durability" as disclosed by Hagi.

The recitations in the instant claims 3-5 are merely statements of intended use, which do not distinguish the toner recited in the instant claims from the toner rendered obvious

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over the combined teachings of Tsutsui and Hagi. The recitation of the intended use of the claimed invention must result in a structural or compositional difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See In re Casey, 152 USPQ 235 (CCPA 1967) and In re Otto, 136 USPQ 458, 459 (CCPA 1963). As discussed above, the toner rendered obvious over the combined teachings of Tsutsui and Hagi meets the compositional limitations recited in the instant claims. Thus, the intended use recited in the instant claims does not result in a compositional difference between the toner recited in the instant claims and the toner rendered obvious over the prior art.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Nov. 22, 2004

*Janis L. Dote*  
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GROUP 1500  
1700